CalPERS
Investment Office
P.O. Box 2749
Sacramento, CA 95812-2749
Telecommunications Device for the Deaf - (916) 795-3240
(916) 795-3400

November 14, 2005

AGENDA ITEM 6c

TO: MEMBERS OF THE INVESTMENT COMMITTEE

I. SUBJECT: New Enhanced Indexing Initiative

II. PROGRAM: Global Equity

III. RECOMMENDATION: Information only

IV. ANALYSIS:

Executive Summary

This is an information item to explore and seek input from the Investment Committee on the concept of including, as part of CalPERS' external public equity program, U.S. and international (developed markets) managers of enhanced indexing products that include a relaxation of the long-only constraint. This is a new strategy for CalPERS that would complement the existing lineup of traditional active and enhanced equity managers. Additionally, the strategy should improve returns while reducing risk to the overall program. This agenda item details how relaxing the long-only constraint is an improvement over traditional long-only equity portfolios and why inclusion of this strategy should help CalPERS achieve its performance objective for the U.S. and international public equity asset classes. An opinion letter from Wilshire Associates is shown in Attachment 1.

Background

At its November 17, 2003 meeting, the Investment Committee approved the issuance of a Request for Proposal (RFP) with a Spring-Fed Pool feature for U.S. equity enhanced indexing managers. At its June 14, 2004 meeting, the Investment Committee approved a group of ten managers for inclusion in the Spring-Fed Pool.

At its October 18, 2004 meeting, the Investment Committee approved the issuance of a RFP with a Spring-Fed Pool feature for (1) international enhanced indexing managers and (2) international active managers. At its April 18, 2005 meeting, the Investment Committee approved a group of three enhanced indexing managers and a group of five active managers for inclusion in two Spring-Fed Pools.

On June 10, 2005, staff availed itself of the Spring-Fed Pool feature of both RFPs and re-issued these RFPs to add additional managers to the pools. The Investment Committee approved the addition of a total of four managers to these Pools at its September 19, 2005 meeting.

This agenda item discusses expanding the enhanced indexing strategy to include U.S. and international enhanced indexing managers whose portfolios are not 100% long-only. Subject to feedback from the Investment Committee, staff intends to bring back to the Committee a recommendation to approve an RFP for managers employing long/short enhanced indexing strategies. Should the Investment Committee approved the RFP, staff will recommend to the Policy Subcommittee appropriate changes to the policies for Domestic Enhanced Index Strategy - Externally Managed and International Enhanced index Strategy - Externally Managed. An explanation of this strategy follows.

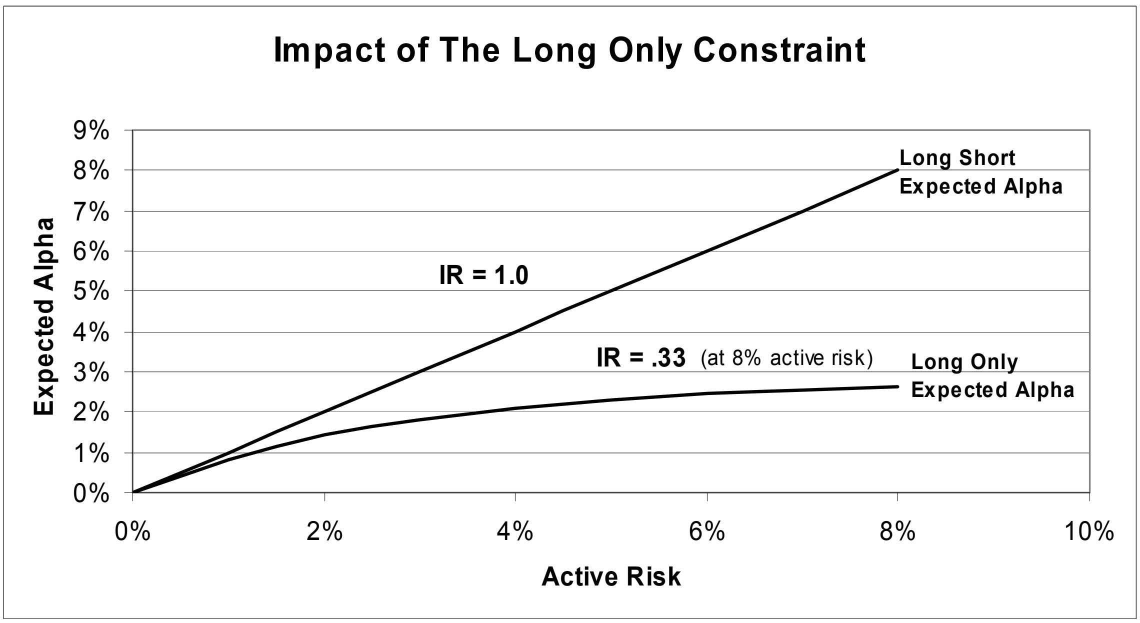
Current Long-Only Management

CalPERS' current external managers are only allowed to take long positions. A "long" position implies buying a security first and later selling it, presumably at a higher price. In contrast, a "short" position entails first selling a security, anticipating it will decline in price, and subsequently buying it back at a lower price. For CalPERS' long-only managers, the only limit on their overweighting of stocks for which they have a positive view is the limit imposed by CalPERS' investment management guidelines or the firm's risk budget. However, for stocks for which the manager has a negative view, the manager is limited by his/her underweight by each stock's own weight in the benchmark. This is an obstacle to managers fully utilizing their investment ideas because, in the S&P 500 for example, there are only 16 stocks the manager can underweight by 1% or more.

The long-only constraint has other implications as well. Managers overweighting smaller capitalization stocks are not able to hedge this size risk by sufficiently underweighting other smaller capitalization stocks. In portfolios with very low active risk levels, the problem is small. However, as active risk levels increase, this asymmetry leads to decreased information ratios. This partly explains why staff has recommended the Investment Committee hire more enhanced indexing managers rather than focusing exclusively on products with more active risk.

Eliminating the Long-Only Constraint Allows Flexibility and Efficiency

The chart below shows the negative impact of the long-only constraint at higher levels of active risk. As active risk is added to a portfolio, the portfolio's excess return begins to deteriorate as the incremental increase in risk is more rapid than the incremental increase in excess return. As the manager takes larger active positions in the stocks that reflect the manager's positive return expectations, the manager increases the unintentional risk to the portfolio by not being able to express the same conviction on the stocks for which he/she has negative expectations. The slope of the line in the chart is the information ratio. The information ratio, which is calculated by dividing the portfolio's annualized excess return by its excess risk, measures how much value a manager adds against a benchmark at a given level of risk. As shown, the information ratio is higher when shorting is allowed.



Allowing a manager to go long or short to equally express both their bullish or bearish views on a security allows for more consistent returns, higher information ratios, and the ability to maximize the value of their investment insights. The combination of a wider opportunity set allows the manager to exploit security mispricing for both overpriced and underpriced securities. Relaxing the long only constraint expands the investment opportunity set – this adds diversification to the portfolio.

Not only does the removal of the long-only constraint enable the manager to underweight an overvalued security by a margin larger than its weight in the benchmark, it also permits the manager larger overweights in underpriced securities while reducing the risk level of the portfolio. The proceeds from the short sales fund the additional purchases in the high alpha names, keeping the portfolio fully invested and near its target beta of 1.0.

Relaxing the long-only constraint also allows the manager to make full use of the whole universe of securities available. A wider opportunity set of alphas that are uncorrelated increases diversification and controls risk. It also increases the breadth of intentional, independent, and uncorrelated active decisions (both positive and negative) in the portfolio.

Proposed Strategy: Enhanced Indexing with Relaxed Long-only Constraint

Subject to Investment Committee feedback on this information item, staff is proposing to return at a later date to request Investment Committee approval of an RFP for enhanced indexing managers who relax the long-only constraint by no more than 35%, while maintaining a portfolio beta near 1.0. This means the manager can go up to 135% long and 35% short in the portfolio while maintaining a market-like portfolio beta. The typical configuration of these strategies is 110% long/10% short, 120% long/20% short, or 130% long/30% short. Attachment 2 contains a discussion of the issue of shorting, addressing the concern of losses from short positions that increase sharply in value.

This strategy allows managers to build portfolios with higher information ratios due to the larger investment opportunity set and improved diversification of active over- and underweights. This strategy is a good fit for quantitative managers whose process already ranks all securities in their universe from most favored to least favored. The strategy is not a good fit for most concentrated fundamental managers that focus their research efforts on a narrow range of stocks.

While there are not a large number of firms employing this strategy, there are a sufficient number of firms to establish a pool and many of these firms are well known to CalPERS or currently managing assets in a long-only portfolio for CalPERS. Only a few managers have actual assets and live performance in this strategy. However, many of CalPERS' current enhanced index managers have recently launched products using simulated history. Actual examples are shown in Table 1 below, without disclosing the manager names. The results for Manager 1 are actual results, not simulated, but note the time period is quite short.

Table 1

	Strategy	**Period**	**Long-Only Return / Std. Dev.**		**Proposed Strategy Return / Std. Dev. / Beta**		
Manager 1	130 / 30	7/04 - 9/05	8.33%	7.94%	9.49%	7.79%	.92
Manager 2	130 / 30	6/99 - 9/05	1.68%	15.21%	2.77%	14.71%	.94
Manager 3	120 / 20	1/03 - 9/05	22.67%	10.30%	27.00%	10.33%	1.00
Manager 4	125 / 25	1/93 - 6/05	16.43%	14.64%	20.70%	14.66%	.99
Manager 5	120 / 20	7/92 - 12/04	12.43%	14.64%	19.62%	14.64%	.94

As is apparent from Table 1, many of the managers staff proposes to consider show significantly better returns in the proposed strategy relative to a similar long-only strategy. A comparison of the risk or standard deviation shows the same or lower risk in the proposed strategy relative to the long-only strategy.

If CalPERS were to release an RFP for this strategy, staff proposes to consider simulated as well as live history, as long as the firm has sufficient history for the alpha engine used in the product, and the firm's professionals can sufficiently demonstrate their experience with short selling.

Opportunities

Evaluating U.S. and international (developed markets) managers of enhanced indexing products that include a relaxation of the long-only constraint is an innovative and important next step in improving and maintaining the performance of CalPERS' externally managed public equity assets. This is particularly important given size of those assets, currently at $120 billion. The availability of skilled managers who can outperform with scalable strategies is limited. Relaxing the long-only constraint would give the best managers another degree and dimension of freedom in which to express their views on securities for CalPERS' benefit.

Relaxing the long-only constraint creates more investment opportunities for the enhanced index managers and is a natural extension of their investment process. Simulated returns show a substantial gain in performance can be achieved with a relatively small relaxation of the long-only constraint while reducing the overall risk of the portfolio.

This strategy provides for better use of information, greater diversification of active positions, and greater capital committed to insights with the same net market exposure.

Risks

The strategy will require extra monitoring by staff, particularly with regard to the risk targets. Staff would consider products with estimated tracking error of 6% or less. It is likely the enhanced risk monitoring used for CalPERS' Risk Managed Absolute Return Strategies program could be used for this strategy as well.

The strategy is more administratively complex than long-only portfolio management. Managers will need to demonstrate that they have experience borrowing stocks for short positions and understand the applicable regulations.

If the strategy is approved, staff contemplates the use of a prime broker to assist in trade management, performance calculation, and the monitoring of risk targets of each manager and the program in aggregate.

Points Raised by Wilshire Associates

Following is a list of points raised by Wilshire Associates in their opinion letter, along with staff's response.

1. *The removal of the long-only constraint also increases the risk in the portfolio and the magnitude of possible losses. The long-short manager will lose money as a long position falls in value and lose additional money as a short position rises in value, doubling the loss in the portfolio.*

   As noted in Table 1 of this agenda item, the standard deviation of returns of the proposed strategies and similar long-only strategies are similar. With proper risk controls, getting a long position and a short position wrong at the same time is no different from getting two long positions wrong at the same time. Staff does not believe the potential losses from a 135% long and 35% short portfolio would be double the potential losses from a long-only portfolio.

2. *The tracking error in a 135% long / 35% short portfolio could increase to as much as 170% of its long-only level, all else being held equal. The relaxation of the long-only constraint can result in greater tracking error than comparable traditional equity investments and potentially greater loses for the managers concerned.*

   Staff proposes to screen potential managers based on predicted tracking error of 6% or less. In addition, staff will carefully monitor tracking error at least monthly for any managers that might be hired for this strategy, as is already done for CalPERS' existing external equity managers. The expected alpha at every level of risk is higher for long-short strategies than it is for long-only strategies, leading to better risk-adjusted returns.

3. *This will be the first time that short sales have been allowed in the external equity portfolio.*

   As noted by Wilshire, CalPERS has experience with short sales through its Risk Managed Absolute Return Strategies program. The strategy under discussion is being proposed to improve risk-adjusted returns of CalPERS' U.S. and international external equity manager programs.

4. *Selecting managers who will be allowed to relax the long-only constraint is far more difficult than simply picking the best "stock pickers". The process of selling securities short requires experienced traders who understand the exchanges' rules about when and how short sales can be executed.*

Should the Investment Committee approve an RFP at a later date, staff, with the advice of Wilshire Associates, would carefully evaluate potential managers, paying particular attention to each product's tracking error, the success of the product's alpha engine in a long-only portfolio (where the track record is likely to be longer), and the expertise and experience of the firms' portfolio managers, traders, and operations staff with short selling.

5. *Short positions will require the payment of embedded financing rates (including dividends) while the positions are in place. Although a long investor can wait indefinitely for a stock to rise in value, there are explicit costs to holding a short position that is not performing as expected. Managers need to have a clear plan for managing these technical factors.*

   The explicit costs of holding a short position that is not performing as expected would likely be dwarfed by the impact of the actual underperformance of the short position on the portfolio. Nonetheless, should the Investment Committee approve an RFP at a later date, staff, with the assistance of Wilshire Associates, will pay close attention to the potential managers' expertise and experience dealing with these technical factors.

6. *A stock sold short can fall to zero, at best, giving the investor a maximum of a 100% return. However, if the stock skyrockets, the investor could be forced to buy the stock back at multiples of the original sale price. Managers need to have controls in place to guard against this risk.*

   Attachment 2 of this agenda items looks at this objection in the benchmark-relative framework that applies to institutional investors. However, staff agrees that careful due diligence concerning the risk controls of potential managers is important for this strategy. We believe the strategy is well suited for large quantitatively oriented firms that place particular emphasis on risk management.

7. *When a stock has a very large total short position in the marketplace relative to its market capitalization, the price can unpredictably race higher as more and more buyers buy back the stock in what is known as a "short squeeze". A short squeeze is a completely "technical" effect that can occur unpredictably in the absence of any specific change to company fundamentals.*

   Staff agrees that, should the IC approve an RFP for this strategy at a later date, it is very important that potential firms be carefully evaluated for the experience and expertise of the relevant portfolio managers and traders with short selling. Further, it is expected that potential managers would carefully monitor the potential for short squeezes based on the capitalization of their short positions prior to trading, just as they monitor and evaluate transaction costs prior to executing trades in a long-only portfolio.

8. *This strategy will require a great deal of due diligence in selecting managers in the implementation phase and would expose CalPERS to sources of risk and return that are significantly different from what it has experienced in the past in the external equity program.*

   Staff is not convinced the sources of risk and return in the proposed strategy are significantly different from the sources of risk and return in CalPERS' long-only enhanced indexing program. However, we agree that adequate due diligence is paramount in selecting managers for recommendation to the CalPERS Investment Committee. In suggesting the proposed strategy for the Investment Committee's consideration, staff had considered the amount and type of due diligence that would be necessary. However, we welcome Wilshire Associate's input on the due diligence process and resulting recommendations.

9. *Managers selected for the removal of the long-only constraint need to be able to demonstrate significant experience and ability in short investing and must have additional risk management systems in place to mitigate the potential damage that short selling can cause in their portfolios.*

   Staff agrees whole-heartedly with this observation. Should CalPERS move forward with this strategy, staff proposes to use a prime broker that can provide additional risk monitoring to staff. In addition, the risk systems used for CalPERS' Risk Managed Absolute Return Strategies program likely can be employed for this new enhanced indexing initiative.

<u>Conclusion</u>

Staff welcomes questions and feedback from the Investment Committee on this proposal.

At a later date, staff may request Investment Committee approval for an RFP with a Spring-Fed Pool feature to hire U.S. and international managers of enhanced indexing products that include a relaxation of the long-only constraint. Attachment 3 outlines some of the criteria that such a search would entail.

V. STRATEGIC PLAN:

Goal IX: Achieve long-term, sustainable, risk adjusted returns.

VI. RESULTS/COSTS:

This item is brought to the Investment Committee in order to enhance risk-adjusted returns and improve the Global Equity opportunity set. Should staff return with an action item recommending an RFP to search for managers who can relax the long-only constraint, the allocation to these managers would come primarily from assets that are managed on a passive basis. In addition, some funding may be obtained from a reduction in the assets of CalPERS' current external managers or from cash inflows. Current staffing within Global Equity is sufficient to develop and execute this initiative.

Prepared by:

Jeffrey Baker Investment Officer	Mary C. Cottrill Senior Portfolio Manager
Christianna Wood Senior Investment Officer	Mark Anson Chief Investment Officer

Attachment 1

Michael C. Schlachter, CFA
Managing Director

October 21, 2005

Mr. Mark Anson
Chief Investment Officer
California Public Employees' Retirement System
400 P Street, Suite 3492
Sacramento, CA 95814

Re: Relaxation of Long-Only Constraint for Domestic Equity Managers

Dear Mark,

You had requested Wilshire's opinion regarding Staff's proposal to relax the long-only constraint for some domestic equity managers. Wilshire supports the exploration of Staff's proposal, but wants to ensure that the Investment Committee fully appreciates the differences between long-only and long-short investing, and understands the impact of this potential change.

Background

In concept, we agree with Staff's proposed relaxation of the long-only constraint for some managers. Long-only investing disregards half the information available to active or enhanced managers, since the managers are unable to profit from information that leads them to believe that the value of certain stocks will fall. In a long-only framework, the sole way for a manager to profit from such information is simply to exclude or underweight predicted underperformers, thus avoiding the drag on the total portfolio that their relatively lower performance would cause.

Removing the long-only constraint allows managers to profit in two ways. First, managers can add absolute value through selling short stocks that are expected to decline in price. As poor performing stocks fall, the benefit to the portfolio is direct and linear. Second, managers can offset a good stock with a similar poor stock, reaping the rewards of the relatively different performances of both stocks. For example, if a manager expects auto manufacturer A to outperform auto manufacturer B over the next year, buying shares in A and selling short the equivalent value of B enables the manager to add value, ***regardless of the overall market movement.*** As long as A rises faster than B, or, in a down market, falls slower than B, the manager is able to add value due to the difference in price movement. As a result of the potential in this type of investment strategy, it is employed by more than 6,000 hedge funds.

As with most of the investment world, however, there is no free lunch in this strategy. In exchange for the potential of higher returns, the removal of the long-only constraint also increases the risk in the portfolio and the magnitude of possible losses. In the example above, a long-only manager who was wrong about company A stands to lose only the decline in the value of A. On the other hand, the "long-short" manager ("long-short" is the nickname for managers who employ both long and short investment strategies in the same portfolio) will lose money as A falls and will lose additional money as B rises, doubling the loss in the portfolio.

The strategy proposed by Staff will allow the managers to buy long up to 135% of the portfolio's nominal value, and to sell short up to 35% of the nominal value. Overall, this will result in a 100% net exposure to market movements which should ideally allow the manager to have market-following returns yet moderately capitalize on negative information by adding additional alpha to the portfolio. If the overall market is up 8% in a year, the manager's portfolio should still track that 8% movement, plus or minus the manager's stock selection abilities. However, given the 135/35 long/short nature of the portfolio, the "tracking error" in the portfolio could increase to as much as 170% of its long-only level, all else being held equal. Therefore, ***a long-only manager with 5% tracking error will have a new tracking error of 8.5% when it is allowed the extra 35% long and short.***

To mitigate this increase in risk, we understand that Staff will seek to hire managers who have lower long-only tracking error than is typical for CalPERS managers, resulting in an acceptable level of total tracking error once the long-only constraint is removed. However, the Investment Committee needs to be fully aware that the relaxation of the long-only constraint can result in greater tracking error than they are accustomed to in comparable traditional equity investments and potentially greater losses for the managers concerned. Although the Investment Committee has previously allowed short investing in the RM ARS and Currency Overlay programs, this will be the first time that short sales have been allowed in the external equity portfolio.

Implementation

Selecting managers who will be allowed to relax the long-only constraint is far more difficult than simply picking the best "stock pickers". The process of selling securities short requires experienced traders who understand the exchanges' rules about when and how short sales can be executed. In addition, short positions will require the payment of embedded financing rates (including dividends) while the positions are in place. Although a long investor can wait indefinitely for a stock to rise in value, there are explicit costs to holding a short position that is not performing as expected. Managers need to have a clear plan for managing these technical factors.

There are also two risks unique to short selling which need to be fully understood by the short investor. First, the risk/return payoff of a short sale is different from a long purchase. When one buys a stock, the worst outcome is that the stock falls to zero and the buyer loses 100% of invested capital. The best outcome is that the stock rises quickly and tremendously, resulting in a selling price that is multiples of purchase price. For a short seller, the return/risk profile is exactly the opposite. A stock sold short can fall to zero, at best, giving the investor a maximum of a 100% return. However, if the stock skyrockets (due to a takeover announcement, drug patent, major new client, or some other shock to the expected business model) the investor could be forced to buy the stock back ("cover" the short sale) at multiples of the original sale price. Hence, short sellers need to be aware of the potential in their portfolios for such unpredictable events that can cause losses in excess of 100%, and have controls in place to guard against these risks.

The other unique risk to short sellers is known as a "short squeeze". When a stock has a very large total short position in the marketplace relative to its market capitalization, the price can unpredictably race higher. If the stock price moves upward for any of a number of reasons, short sellers may choose to "cover" their positions by buying the shares back and closing out their short positions. As more and more short sellers buy back the shares, the demand makes the price climb ever higher, potentially forcing other short sellers to buy, as well, either as a result of margin calls by brokers or simple risk management. In the worst cases, this can result in a stampede of buyers, known as a "short squeeze", which may cause large losses very quickly. Obviously, it is possible for any stock in a long portfolio to fall rapidly and cause similar losses, but such falls are usually as a result of market news, commodity prices, interest rates, or fundamental changes in the company's business. In contrast, the short squeeze is a completely "technical" effect that can occur unpredictably in the absence of any specific change to company fundamentals.

While none of these concerns and risks would lead us to recommend against the idea of relaxing the long-only constraint, we wish to make it very clear that Staff's pursuit of this change will require a great deal of due diligence in selecting managers in the implementation phase, and would expose CalPERS to sources of risk and return that are significantly different from what it has experienced in the past in the external equity program. Managers selected for the removal of the long-only constraint need to be able to demonstrate significant experience and ability in short investing, and must have the additional risk management systems in place to mitigate the potential damage that short selling can cause in their portfolios.

.

Sincerely,

Michael C. Schlachter, CFA

Attachment 2

Discussion on the Issue of Shorting

One objection that is frequently raised with strategies that employ a measure of shorting is that, in a long position, an investor can only lose 100% of the stock's value, while the loss from a short position is potentially unlimited and can be many times the stock's initial value.

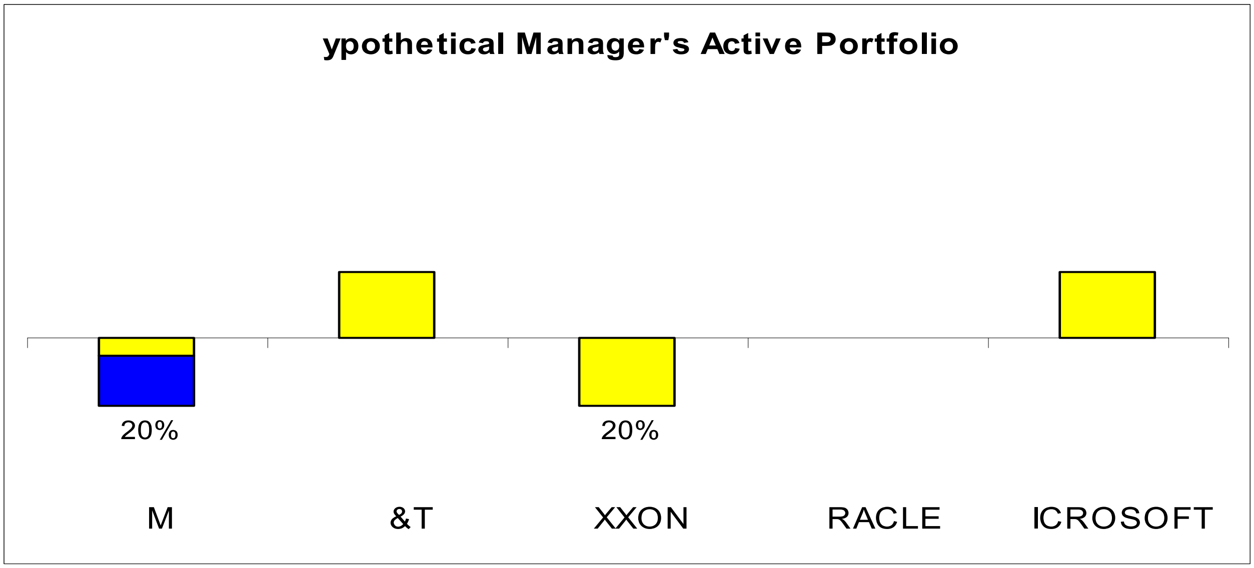
Investors voicing this objection are looking at the portfolio's absolute holdings and returns and ignoring the benchmark-relative framework that applies to institutional investors. For institutional investors who have a broad equity benchmark as their policy allocation, the neutral holding of a stock is its benchmark weight, not zero. Given that the policy benchmark, and not cash, is the natural alternative to an active portfolio, the only meaningful risk of unlimited losses for an institutional investor applies to underweights relative to that benchmark, not to absolute positions. And it applies to all underweights, whether they're facilitated with short positions or not.

In other words, an institutional investor engaged in active investing is already exposed to short positions in the only way that is meaningful to the institution. There is no difference *in kind* between an underweight that results in a zero holding of a stock and one that results in a short position – both are underweights relative to the benchmark, which is the natural reference point. The only difference is in the *degree* of the underweighting.

Any institutional investor placing the concern for unlimited active losses above all other considerations must disavow not just short positions, but all active underweights, and so, by necessity, all active positions.

Perhaps the easiest way illustrate this point is through the underweights in the active portfolio of a hypothetical manager shown in the chart below. In this active portfolio, both 3M and Exxon are underweighted by the same amount, -20%. For Exxon, all -20% of its underweight comes from the benchmark. For 3M, only -5% of its underweight comes from the benchmark, with the other -15% coming from a short position. The fact that borrowed stock is used to establish one active position and not the other is irrelevant for their active risks and returns, which are exactly the same.

Attachment 2



A smaller capitalization stock has less weight in the benchmark to be underweighted than does a larger stock. But that is no good reason for preventing a manager from underweighting a smaller stock to the same degree as a larger stock. Not allowing a manager to underweight smaller stocks to the same degree will only get in the way of effective implementation of information. The result likely will be less active return for the active risk or, conversely, more active risk for the same level of active return, which is to say, *not allowing short positions leads to a more risky portfolio*.

Attachment 3

Details of Possible RFP for Long/Short Enhanced Indexing Managers

The following criteria would be used for manager selection:

1. Managers with positive active returns, commensurate with the risk incurred, that have a low correlation to one another.

2. Depth of investment talent and a convincing strategy to retain top talent.

3. A well reasoned investment philosophy and process and the ability to demonstrate why it should add value over the benchmark.

4. A quantitative process for portfolio construction and risk control.

5. Experienced securities traders and evidence of ability to trade in a cost-effective manner for large institutional portfolios.

6. Experience with short selling.

7. Risk system comparable to what managers of risk managed absolute return strategies use.

7. Competitive fee arrangements.

8. A desire to work for CalPERS and deploy adequate and high caliber resources to the relationship.

In consideration of the Board's policy on Board scoring, staff would recommend that 200 points be allocated for staff (not including fees) and 200 points be allocated for the Investment Committee, to be applied in the event that the Committee decides to interview and score the bidders. The 200 points allocated to staff would consist of 100 points allocated to the scoring of the bidders' proposals and 100 points allocated to staff's onsite visits or interviews. Staff would seek input from Wilshire to develop the questionnaire used in the scoring of the bidders' proposals.

It is anticipated that most of the funding for the new managers would come primarily from assets that are managed on a passive basis. In addition, some funding might be obtained from a reduction in the assets of CalPERS' current external managers or from cash inflows.